

REMARKS

Summary of Claim Status

Claims 1-17 and 19-53 are pending in the present application after entry of the present amendment. Claims 31-41 and 43-53 are rejected for the reasons discussed below. Claim 42 is objected to as depending from a rejected base claim, but indicated as allowable if properly rewritten in independent form.

Claims 1-17 and 19-30 are allowed. Applicant thanks the Examiner for this acknowledgement of patentable subject matter.

Applicant respectfully requests favorable reconsideration of the claims and withdrawal of the pending rejections and objections in view of the present amendment and in light of the following discussion.

Rejections Under 35 U.S.C. § 103

Claims 31-41 and 43-53 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cliff et al., U.S. Patent No. 5,550,782 ("Cliff"), in view of Hamada et al., U.S. Patent No. 6,373,291 ("Hamada"). Applicant respectfully disagrees and traverses the rejection with respect to all claims.

With respect to Claim 31, the Examiner admitted that Cliff does not teach any means for selectively providing either a first hardwired configuration bit or a second hardwired configuration bit to the one or more configurable elements in response to a select signal. The Examiner further alleges that Hamada teaches in Fig. 2B a "means (PT) for selectively providing either a first hardwired configuration bit (A) or a second hardwired configuration bit (B) to the one or more configurable elements (coupled to Z) in response to a select signal (S)." Applicant submits that Cliff and Hamada, taken alone or in any combination, do not teach such features, and further that there is no suggestion in either reference for the combination.

Cliff merely describes a well-known programmable logic array and, as admitted in the Office Action, does not teach any hardwired configuration bits. Hamada merely describes a pass transistor logic circuit. In particular, Hamada describes a well-known multiplexer using full pass transmission gates, where the individually transistors have

particular sizing (width) constraints. The Office Action alleges that nodes A and B of Hamada correspond to the first and second hardwired configuration bits; however, there is no teach or even suggestion in Hamada that nodes A and B are hardwired configuration bits.

As stated in Hamada, A and B are “pass signal input nodes.” See Hamada at col. 3, lines 36-59. That is, nodes A and B are merely the inputs to the pass transistor logic circuit of Hamada. Furthermore, Hamada indicates that signals A and B are altered, and that those altered signals are transmitted primarily through transistors NM1 and PM1. See Hamada at col. 4, lines 14-16. That is, signals A and B are merely standard input signals to a circuit that alter their values. The transmission circuit of Hamada then passes on those altered values. As is well-known to one of ordinary skill in the art, an input node that transitions in this manner is not a hardwired bit.

In contrast, Claim 31 recites first and second hardwired configuration bits. In the interests of advancing prosecution, Applicant has voluntarily amended Claim 31 to clarify the language, and make explicit what was implicit in the original claim. In particular, Claim 31 further recites that each of the first and hardwired configuration bits is hardwired to one of a supply voltage and a ground potential. Neither Cliff nor Hamada teach or even suggest such a feature.

Furthermore, the Office Action has failed to provide proper motivation to combine the references. For prior art references to be combined to render obvious a subsequent invention under §103, there must be something in the prior art as a whole that suggests the desirability, and thus the obviousness, of making the combination. (*Uniroyal v. Rudkin-Wiley*, 5 U.S.P.Q.2d 1434, 1438 (Fed. Cir. 1988). The teachings of the references can be combined only if there is some suggestion or incentive in the prior art to do so. (*In re Fine*, 5 U.S.P.Q.2d at 1599).

In the present Office Action, the Examiner states: “it would have been obvious . . . to implement means (PT) for selectively providing hardwired configuration bits of Hamada et al. to control to configurable elements (20s) of Cliff et al, in order to reduce power consumption in the integrated circuit.” This is simply untrue. The programmable logic elements of Cliff do not have hardwired configuration bits as can

be plainly seen in Fig. 3 of Cliff, which shows detail of a programmable logic element. Combining the circuit of Hamada with the programmable logic elements of Cliff would actually cause an increase in power consumption, since additional transistors would lead to additional leakage current and power dissipation through those additional devices. The circuit described in Hamada is merely a multiplexer without the power disadvantages of prior art NMOS pass transistor logic (due to threshold voltage drop) and occupying less area than prior art CMOS transmission gates. See Hamada at col. 4, lines 30-43 and at col. 5, lines 1-15. However, since no such transmission gates exist in the circuit described in Cliff, there are no such power or area improvements to be gained. To the contrary, adding such circuitry would increase the area in Cliff, and also increase power requirements. Thus, Applicant submits it would not have been obvious to one of ordinary skill to combine Cliff and Hamada.

Therefore, since neither Cliff nor Hamada discloses and hardwired configuration bits, and since there is no motivation to combine the two references, Applicant believes Claim 31 is allowable, and allowance of Claim 31 is respectfully requested.

Similarly, Claims 43 and 48 also recite first and second hardwired configuration bits. As set forth above, neither Cliff nor Hamada discloses such hardwired configuration bits. Furthermore, Applicant has made amendments to Claims 43 and 48 which are substantially the same as the amendments made in Claim 31. These clarifying amendments merely make explicit what was inherent in the claims as originally presented. Therefore, Applicant believes Claims 43 and 48 are also allowable, and allowance of Claims 43 and 48 is respectfully requested.

Claims 32-41 depend from independent Claim 31; Claims 44-47 depend from independent Claim 43; and Claims 49-53 depend from independent Claim 48. Applicant believes each of Claims 31, 43, and 48 is allowable for the reasons set forth above, respectively. Therefore, for at least the same respective reasons, Applicant believes Claims 32-41, 44-47, and 49-53 are also allowable, and allowance of such claims is respectfully requested.

The above amendments are fully supported by the specification as filed, for example at paragraph [0041].

Objections


Claims 42 is objected to as being dependent from a rejected base claim, but indicated as otherwise allowable. Applicant thanks the Examiner for this acknowledgement of allowable subject matter.

Applicant believes that all rejections have been overcome by the above amendments and arguments, and that this objection is now moot. Therefore, Applicant respectfully requests allowance of Claim 42.

Conclusion

No new matter has been introduced by any of the above amendments. In light of the above amendments and remarks, Applicant believes that Claims 1-17 and 19-53 are in condition for allowance, and allowance of the application is therefore requested. If action other than allowance is contemplated by the Examiner, the Examiner is respectfully requested to telephone Applicant's attorney, Justin Liu, at 408-879-4641.

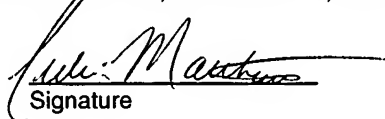
Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450, on October 14, 2005.

Julie Matthews
Name



Signature